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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,310	11/25/2003	Mario Busshoff	DAY 0743 VA/40195.811	9317

7590 08/25/2006

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EXAMINER

MCNALLY, DANIEL

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/722,310

Applicant(s)

BUSSHOF ET AL.

Examiner

Daniel McNally

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on November 25, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☒ Claim(s) 1,3,5,8,10 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3 papers, 2/11/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 36. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: Paragraph 0043 states, "FIG. 2 illustrates another embodiment of the invention in which imageable layer 14 is secured to compressible layer 13 via adhesive16." In FIG.2 adhesive 16 is shown between compressible layer 13 and base sleeve 12.

Appropriate correction is required.

Claim Objections

3. A series of singular dependent claims is permissible in which a dependent claim refers to a preceding claim which, in turn, refers to another preceding claim.

A claim which depends from a dependent claim should not be separated by any claim which does not also depend from said dependent claim. It should be kept in mind that a dependent claim may refer to any preceding independent claim. In general, applicant's sequence will not be changed. See MPEP § 608.01(n).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 12 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claims 12 and 13 recite the limitation "said elastomer" in the first lines of claim 12 and 13. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1-6, 8, 10, 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo et al. [US-5884559] in view of Hatch et al. [US-5840386].

Okubo discloses a printing blanket and a process for assembling a printing blanket. The “base sleeve” as recited in claim 1, is a combination the base layer (31) and non-stretchable layer (32). Okubo discloses the application of a base layer and non-stretchable layer to a cylindrical sleeve (2). Note Okubo discloses the non-stretchable layer can be a variety of fibrous materials (column 5, lines 38 – 41). Okubo discloses a desired thickness range for the base layer and non-stretchable layer (column 5, lines 20 - 31 and lines 51- 52). In the examples, Okubo discloses the use of a vulcanizing furnace and cylindrical grinding machine for “curing and working” the outer surface (column 11, lines 52 – 63). Okubo discloses applying a compressible layer (33) to the outside surface of the non-stretchable layer (column 6, lines 17 – 23). Outside the compressible layer, Okubo discloses the application of the surface printing layer (34) or “imageable surface” (column 8, lines 3 – 12). In the examples, Okubo discloses the use of a vulcanizing furnace and cylindrical grinding machine for “curing and working” the outer surface of the “print sleeve” (column 13, lines 12 – 44).

Okubo discloses the use of unvulcanized rubber cement for the base layer. Okubo does not disclose the use of a polymer resin in place of the rubber cement. Hatch teaches the inner tube (26) can be made of polyester or epoxy resin. Hatch discloses the use of a fibrous material to reinforce the resin and a wall thickness of 0.6mm – 1.0mm of the inner tube (column 5, lines 13 – 37). It would have been obvious

at the time of invention to modify Okubo's base layer by substituting for rubber cement with a polymer resin as taught by Hatch. The desire to produce a removable and reusable print sleeve with a base sleeve comprising the following qualities: thin, radially expandable, chemical resistant and having high structural integrity, is motivation to perform the material substitution.

With regard to claim 2, Okubo discloses a thread (32a) that is wound to form the non-stretch layer (column 4, lines 50 –54). Note Okubo discloses the possibility of various design changes (column 10, line 47 – 51). One skilled in the art would know that addition of multiple wound layers; relocation or omission of layers (column 10, line 52) would be some examples of various design changes within the scope of the invention found in prior art.

With regard to claim 3, Okubo discloses winding a cotton-woven sheet to form a non-stretchable layer (column 12, lines 27 - 32). The cotton-woven sheet is a “woven fabric” as recited in claim 3.

With regard to claim 4, Okubo discloses applying a base layer (31) onto a cylindrical sleeve (2) and applying a non-stretchable layer (32) onto the base layer (31), see Figure 1a. By substituting a polymer resin for unvulcanized rubber cement as taught by Hatch, Okubo as modified meets the limitations as recited in claim 4.

With regard to claim 5, Okubo discloses a method for producing a print cylinder, including the use of a woven fabric when forming the “base sleeve.” Okubo does not disclose impregnating the woven fabric with polymer resin as recited in claim 5. Hatch teaches of an inner tube (26) or “base sleeve” consisting of a reinforced plastic material

and Hatch discloses an example of an impregnated yarn or carbon fiber (column 5, lines 13 – 21) or “woven fabric impregnated with polymer resin” as recited in claim 5. It would have been obvious for one of ordinary skill in the art at the time of invention to modify Okubo’s “base sleeve” by impregnating polymer resin into the woven fabric as taught by Hatch in order to create a polymer resin layer that will resist deformation.

With regard to claim 6, Okubo discloses the use of a cylindrical grinding machine to form a surface printing layer of a desired thickness (column 13, lines 38 – 44).

With regard to claim 8, Okubo discloses the formation of a compressible layer (column 6, lines 17 – 26). Okubo discloses a sheet composed of an unvulcanized rubber compound. Okubo discloses the method of winding or “spirally wrapping” the sheet to form a compressible layer as recited in claim 8.

With regard to claim 10, Okubo discloses an adhesive layer (g3) applied to the outside of non-stretchable layer (32) and in contact with the inside of the compressible layer (33), see Figure 1a.

With regard to claim 18, Okubo discloses the formation of a surface printing layer (column 8, lines 3 - 12). Okubo discloses a sheet composed of an unvulcanized rubber compound. Okubo discloses the method of winding or “spirally wrapping” the sheet to form a surface printing layer or “imageable surface” as recited in claim 18.

With regard to claim 21, Okubo discloses a method for processing a print blanket, comprising the formation of a surface printing layer (column 13, lines 5 – 22). In the examples, Okubo discloses a surface printing layer comprising an unvulcanized

rubber cement. Okubo also discloses the use of a rotational spreading machine to spread the surface printing layer over the compressible layer.

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo in view of Hatch as applied to claims 1-6, 8, 10, 18 and 21 above, and further in view of Millett et al.

[US-5225020].

Okubo, as modified, discloses a method for producing a cylindrical printing blanket, comprising applying a "base sleeve" to a "cylindrical support." Okubo does not disclose applying the "base sleeve" by pultrusion or the use of a forming die. Millett teaches a method of producing a fiber reinforced polymeric substrate around a mandrel (10) or "cylindrical support." Millett discloses the steps of applying sheets or ropes around first portion (12) of the mandrel (column 2, lines 52 – 58). Millett also discloses the step of pulling the fibers through a resin injection chamber (37) defined by an exterior die (36) or "forming die" as recited in claim 7 where resin is injected onto the fiber substrate. It would have been obvious for one of ordinary skill in the art at the time of invention to include in Okubo's process a method of forming the "base sleeve" by pultrusion as taught by Millett, and to modify Okubo's cylindrical support by using a pultrusion mandrel including an exterior die as taught by Millett. The motivation for making the modifications is to efficiently produce a base sleeve of continuous length and constant thickness.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo `559, in view of Hatch as applied to claims 1-6, 8, 10, 18 and 21, and further in view of Okubo et al. [US-6782820].

Okubo `559, as modified, discloses a method for producing a cylindrical printing blanket, comprising the application of a sheet material to form a compressible layer. Okubo does not disclose the method of application as wrapping and seaming. Okubo `820 discloses a method of producing a cylindrical printing blanket comprising a compressive layer (6). Okubo `820 teaches wrapping of sheet-like blanket and the joining of each end at joint (8) or "seam." It would have been obvious for one skilled in the art at the time of invention to modify Okubo `599 to include a method of wrapping and seaming at the sheet's ends to form a compressible layer as taught by Okubo `820 in order to increase production speed by applying a compressible layer that has already been formed and does not require more vulcanization time.

12. Claims 11 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo in view of Hatch as applied to claims 1-6, 8, 10, 18 and 21 above, and further in view of Vrotacoe et al. [US-5304267].

Okubo, as modified, discloses a method for producing a cylindrical printing blanket, comprising the formation of a compressible layer. In the examples, Okubo discloses the formation of a compressible layer comprising the application of an unvulcanized rubber cement, which may contain microspheres (column 7, lines 12- 15). As recited in claim 11, the compressible layer is applied by method of spreading, using a rotational spreading machine (column 12, lines 40 – 49). Okubo disclose the

presence of microspheres in the compressible layer. Okubo does not disclose the microspheres as uniformly distributed. Vrotacoe discloses the method of making a printing blanket comprising a compressible layer containing microspheres. Vrotacoe teaches the microspheres (154) are uniformly distributed (column 9, lines 3 – 15). It would have been obvious for one of ordinary skill in the art at the time of invention to modify Okubo's compressible layer to include microspheres that are uniformly distributed as taught by Vrotacoe. One would be motivated to make this modification to make the compressible layer equally compressible in all parts of the layer.

With regard to claim 12, Okubo discloses the compressible layer is applied using a rotational spreading machine (column 12, lines 40 – 49). The rotational spreading machine rotates the cylindrical support and additional applied layers while the compressible layer is being applied, as recited in claim 12.

With regard to claim 13, Okubo discloses a method of forming a compressible layer comprising the step of vulcanizing the compressible layer in place (column 12, lines 40 – 49). Okubo discloses a vulcanizing step, which is the equivalent of curing the compressible layer.

13. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo in view of Hatch as applied to claims 1-6, 8, 10, 18 and 21 above, and further in view of Fan et al. [US-6425327].

Okubo, as modified, discloses a method for producing a cylindrical printing blanket, comprising the application of a sheet material by spirally wrapping to form an imageable surface. Okubo does not disclose the sheet material as a photocurable

material. Fan discloses a method of forming a cylindrical print sleeve comprising a layer (16) or imageable surface. Fan teaches the imageable surface comprises of photopolymerizable material. It would have obvious to one of ordinary skill in the art at the time of invention to modify Okubo by substituting a rubber material with a photopolymerizable material as taught by Fan in order to cure the imageable surface without exposing the print sleeve to the high temperatures of vulcanization.

14. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo in view of Hatch as applied to claims 1-6, 8, 10, 18 and 21 above, and further in view of Okubo et al. [US-6782820].

Okubo `559, as modified, discloses a method for producing a cylindrical printing blanket, comprising the application of a sheet material to form an imageable surface (column 8, lines 3 – 12). Okubo does not disclose the method of application as wrapping and seaming. Okubo `820 discloses a method of producing a cylindrical printing blanket comprising a surface printing rubber layer (7). Okubo `820 teaches wrapping of sheet-like blanket and the joining of each end at joint (8) or "seam." It would have been obvious for one skilled in the art at the time of invention to modify Okubo `599 to include a method of wrapping and seaming at the sheet's ends to form a imageable surface layer as taught by Okubo `820 in order to increase production speed by applying an imageable surface layer that has already been formed and does not require more vulcanization time.

15. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo `559 in view of Hatch and Okubo `820 as applied to claim 19 above, and further in view of Fan et al. [US-6425327].

Okubo `559, as modified, discloses a method for producing a cylindrical printing blanket, comprising the application of a sheet material by wrapping and seaming to form an imageable surface. Okubo `559 does not disclose the sheet material as a photocurable material. Fan discloses a method of forming a cylindrical print sleeve comprising a layer (16) or imageable surface. Fan teaches the imageable surface comprises of photopolymerizable material. It would have obvious to one of ordinary skill in the art at the time of invention to modify Okubo `559 by substituting a rubber material with a photopolymerizable material as taught by Fan in order to cure the imageable surface without exposing the print sleeve to the high temperatures of vulcanization.

16. Claims 16 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo in view of Hatch as applied to claims 1-6, 8, 10, 18 and 21 above, and further in view of Fan et al. [US-6425327].

Okubo, as modified, discloses a method for processing a print blanket, comprising the formation of a surface printing layer (column 13, lines 5 – 22). Okubo discloses the method of application of the surface printing layer as spreading. Okubo does not disclose the surface printing layer comprising a photocurable material. Fan discloses a method of forming a cylindrical print sleeve comprising a layer (16) or imageable surface. Fan teaches the imageable surface comprises of photopolymerizable material. It would have obvious to one of ordinary skill in the art at

the time of invention to modify Okubo by substituting a rubber material with a photopolymerizable material as taught by Fan in order to cure the imageable surface without exposing the print sleeve to the high temperatures of vulcanization.

With regard to claim 17, Okubo discloses the surface printing layer is applied using a rotational spreading machine (column 13, lines 5 – 22). The rotational spreading machine rotates the cylindrical support and additional applied layers while the surface printing layer is being applied, as recited in claim 17.

17. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo in view of Hatch as applied to claims 1-6, 8, 10, 18 and 21 above, and further in view of Gayle et al. [US-6401613].

Okubo, as modified, discloses a method for producing a cylindrical printing blanket, comprising imageable surface comprising a rubber material. Okubo does not disclose a method of forming an imageable surface by extruding a tube and mounting the tube over a compressible layer. Gayle teaches that outer sleeve (52) can be constructed by extrusion (column 3, lines 31 – 40). Gayle also teaches a method of assembling the print sleeve by mounting the outer sleeve to a compressible inner sleeve (50) by a slip fit (column 2, lines 61 – 67). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the formation Okubo's imageable surface by extruding a tube and mounting the tube over a compressible layer as taught by Gayle in order to expedite the assembly process by avoiding the vulcanizing time of the imageable surface layer.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Burns, Jr. [US-5069958] discloses a printer's blanket comprising a base layer, a compressible layer, and a printing layer.

Herrmann et al. [US-6382102] discloses a method of making a blanket sleeve comprising a cylindrical support, a woven cloth layer, a compressible elastomer layer, and a covering rubber layer.

Tomono et al. [US-5478637] discloses supporting base layers comprising woven impregnated threads.

Praet et al. [US-6125753] discloses a printing sleeve comprising a printing layer, compressible layer, and support layers.

Hoage et al [US-4903597] discloses a laminated print sleeve comprising woven fibrous materials impregnated polymeric material.

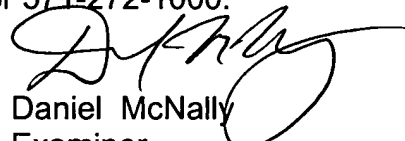
Castelli et al. [US-5700343] discloses a method of applying layers to a printing blanket by spreading over a rotating support.

McConnell [US-5301610] discloses a method of spirally wrapping printing cylinders.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel McNally whose telephone number is 2685. The examiner can normally be reached on Monday - Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571)-272-1226. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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August 10, 2006



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